

Appendix C

Environmental and Land Use Data for Primary Transmission Line Segments and Routes (Tables 4-1 and 4-2)

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**Table 4-1
Environmental and Land Use Data
for the Primary Transmission Line Route Segments
4/17/2015**

Evaluation Criteria	Primary Transmission Line Route Segments													
	A	A1	A2	A3	B	B1	B2	B3	C	C1	C2	C3	D	D1
1 Length of segment (feet)	19,008	31,329	58,097	9,534	9,471	14,911	39,930	59,090	49,038	2,869	37,903	9,470	39,849	11,770
2 Length of segment (miles)	3.60	5.93	11.00	1.81	1.79	2.82	7.56	11.19	9.29	0.54	7.18	1.79	7.55	2.23
3 Number of directly affected habitable structures ^[1] within 500 feet of segment centerline	9	11	33	0	1	3	33	3	32	3	17	0	7	7
4 Number of directly affected habitable structures ^[1] also within 500 feet of an existing transmission line	0	1	0	0	1	0	1	1	0	0	1	0	0	0
5 Number of habitable structures ^[1] potentially to be relocated/removed ^[2]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Length of segment using existing transmission line easement	3.60	0	0	0	0.25	0	0	0	0	0	0	0	0	0
7 Length of new ROW required for segment	0.00	5.93	11.00	1.81	1.54	2.82	7.56	11.19	9.29	0.54	7.18	1.79	1.62	2.23
8 Number of new ROW Compressed Construction Sites (CCS) for segment	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Length of segment parallel to existing transmission line ROW	0.00	0.00	0.00	1.68	1.54	0.00	0.00	6.66	0.00	0.00	0.00	1.79	0.00	0.00
10 Length of segment not utilizing/paralleling existing transmission line ROW	0.00	5.93	11.00	0.12	0.00	2.82	7.56	4.53	9.29	0.54	7.18	0.00	1.62	2.23
11 Length of segment parallel to existing pipeline ROW	0.00	0.00	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 Length of segment parallel to existing railroad ROW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 Length of segment paralleling apparent property lines ^[3]	0.00	4.29	7.63	0.00	0.00	1.66	4.36	3.90	2.94	0.54	6.00	0.00	1.47	1.72
14 Length of segment parallel to other existing ROW (roadway, etc.)	0.00	1.33	0.04	0.00	0.00	0.19	0.72	0.19	5.02	0.00	0.27	0.00	0.00	0.20
15 Length of segment not parallel to pipeline ROW, railroad ROW, apparent property lines, or other existing ROW (roadway, etc.)	0.02	0.31	1.92	0.12	0.00	0.98	2.49	0.44	1.33	0.00	0.90	0.00	0.14	0.31
16 Percent of segment parallel with apparent features, property lines, pipelines, railroads, or an existing ROW	0%	95%	83%	93%	86%	65%	67%	96%	86%	100%	87%	100%	20%	86%
17 Length of segment across parks/recreational areas ^[4]	0.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 Number of additional parks/recreational areas ^[4] within 1,000 feet of segment centerline	0	0	0	0	0	0	1	0	0	0	0	0	0	0
19 Length of segment across residential areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 Length of segment across commercial/industrial areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00
21 Length of segment across agricultural land/cropland	0.69	2.02	1.00	0.00	1.07	0.00	0.26	0.00	0.99	0.00	0.00	0.00	3.15	0.26
22 Length of segment across pastureland	2.32	3.45	1.02	0.18	0.64	1.20	4.56	4.88	7.81	0.00	2.54	0.76	3.61	1.64
23 Length of segment across mobile irrigated cropland or pastureland	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Number of pipeline crossings (7-inches and greater)	0	0	13	3	3	0	5	13	6	0	3	0	6	0
25 Number of transmission line crossings	0	1	0	0	0	0	2	1	1	0	2	0	1	0
26 Number of U.S. and state highway crossings	0	0	1	0	0	0	1	0	0	0	0	0	0	0
27 Number of F.M. road crossings	0	1	1	0	0	0	0	0	1	0	0	0	1	0
28 Number of local road crossings	2	2	5	0	1	1	3	2	2	0	4	0	1	2
29 Number of cemeteries within 1,000 feet of the segment centerline	0	0	1	0	0	1	1	0	0	0	1	0	0	0
30 Number of heliports within 5,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Number of private airstrips within 10,000 feet of segment centerline	0	3	2	0	0	1	1	0	1	0	1	0	1	1
32 Number of FAA-listed airfields within 10,000 feet of segment centerline having no runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Number of FAA-listed airfields within 20,000 feet of segment centerline having at least one runway more than 3,200 feet	1	0	0	0	1	0	0	0	1	0	0	0	1	0
34 Number of commercial AM radio transmitters within 10,000 feet of segment centerline	1	0	0	0	1	0	0	0	1	0	0	0	1	0
35 Number of FM radio transmitters, microwave relay stations, and other electronic installations etc. within 2,000 feet of segment centerline	9	1	2	0	1	1	1	3	1	0	0	0	2	0
36 Number of known hazardous waste sites within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Number of oil and gas wells within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aesthetics														
38 Estimated length of segment within foreground visual zone of U.S. and state highways ^[5]	0.00	0.00	0.85	0.36	0.00	1.40	2.27	0.00	0.00	0.00	0.37	0.00	0.00	0.47
39 Estimated length of segment within foreground visual zone of FM and county roads ^[5]	0.00	2.34	0.94	0.00	0.00	0.00	0.00	0.00	1.52	0.00	0.00	0.00	0.52	0.00
40 Estimated length of segment within foreground visual zone of park and recreational areas ^{[4][5]}	1.73	0.11	0.00	0.00	0.00	0.00	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ecology														
41 Length of segment across upland woodlands	0.01	0.25	8.19	1.48	0.00	1.07	1.45	4.94	0.06	0.54	3.69	0.96	0.40	0.09
42 Length of segment across bottomland/riparian woodlands	0.00	0.11	0.45	0.04	0.04	0.42	1.03	0.59	0.00	0.00	0.84	0.06	0.31	0.19
43 Length of segment across National Wetland Inventory mapped wetlands	0.08	0.27	0.00	0.00	0.47	0.10	0.12	0.08	0.44	0.00	0.24	0.06	1.94	0.00
44 Length of segment across known habitat of federal endangered/threatened species of plants or animals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45 Number of known state rare/unique plant locations within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Length of segment across open water (lakes or ponds)	0.00	0.00	0.02	0.00	0.00	0.04	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00
47 Number of stream crossings	2	4	19	4	4	5	21	27	12	2	9	4	5	7
48 Length of segment parallel to streams within 100 feet of segment centerline	0.00	0.26	0.64	0.03	0.19	0.00	0.78	0.69	0.97	0.03	0.27	0.19	2.12	0.07
49 Length of segment across 100-year floodplains	1.01	0.23	0.14	0.00	0.00	0.29	0.99	1.33	0.00	0.03	0.87	0.48	2.36	0.33
Cultural Resources														
50 Number of recorded historical and archeological sites crossed within ROW	0	0	1	0	0	0	0	1	0	0	0	0	0	0
51 Number of additional recorded historical and archeological sites within 1,000 feet of segment centerline	0	0	2	6	2	0	1	5	0	0	0	4	0	0
52 Number of National Register of Historic Places listed or determined-eligible properties within ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Number of additional National of Register Historic Places listed or determined-eligible properties within 1,000 feet of segment centerline	0	0	0	0	0	0	1	0	0	0	0	0	0	0
54 Length of segment across areas of high archaeological/historic site potential	0.38	2.34	6.80	1.79	0.70	2.25	7.04	9.65	0.00	0.54	4.98	1.79	1.57	1.76

^[1] Single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a regular basis within 500 feet of the centerline of a transmission line project greater than 230-kV.

^[2] CenterPoint Energy will potentially relocate/remove habitable structures within 50 feet of the centerline.

^[3] Apparent property boundaries created by existing roads, highway, or railroad ROW are not "double counted" in the length of ROW parallel to apparent property boundaries criteria. Property boundary information was provided by CenterPoint Energy.

^[4] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.

^[5] Half mile, unobstructed.

Note: All length measurements in miles unless noted otherwise. All linear measurements were obtained from various aerial photograph sources: NAIP 2012/2014, GoogleMaps, and Bing with the exception of high probability areas for archaeological/historical/resources which were measured from USGS Topographic Quadrangles using GIS software.

**Table 4-1
Environmental and Land Use Data
for the Primary Transmission Line Route Segments
4/17/2015**

Evaluation Criteria	D2	D3A	D3B	E	E1	E2	E3	F	F1	F2	F3	G	G1	G2	H
1 Length of segment (feet)	4,872	4,007	4,089	36,177	5,644	12,046	6,923	27,324	12,574	11,240	14,700	34,142	23,370	31,596	18,492
2 Length of segment (miles)	0.92	0.76	0.77	6.85	1.07	2.28	1.31	5.17	2.38	2.13	2.78	6.47	4.43	5.98	3.50
3 Number of directly affected habitable structures ^[1] within 500 feet of segment centerline	0	0	2	2	10	0	3	0	9	11	6	16	17	2	4
4 Number of directly affected habitable structures ^[1] also within 500 feet of an existing transmission line	0	0	2	0	0	0	3	0	0	4	2	0	0	1	0
5 Number of habitable structures ^[1] potentially to be relocated/removed ^[2]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Length of segment using existing transmission line easement	0	0	0	0	0	0	0	0	0	0	0	0.75	0	0	0
7 Length of new ROW required for segment	0.92	0.76	0.77	6.85	1.07	2.28	1.31	5.17	2.38	2.13	2.78	5.71	4.43	5.98	3.50
8 Number of new ROW Compressed Construction Sites (CCS) for segment	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
9 Length of segment parallel to existing transmission line ROW	0.00	0.70	0.32	0.00	0.00	2.28	0.19	5.17	0.00	1.21	0.39	0.00	0.00	0.00	0.00
10 Length of segment not utilizing/paralleling existing transmission line ROW	0.92	0.05	0.45	6.85	1.07	0.00	1.13	0.00	2.38	0.92	2.40	5.71	4.43	5.98	3.50
11 Length of segment parallel to existing pipeline ROW	0.16	0.00	0.00	5.09	0.00	0.00	0.00	0.00	0.00	0.00	1.94	0.00	0.00	0.00	0.00
12 Length of segment parallel to existing railroad ROW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 Length of segment paralleling apparent property lines ^[3]	0.77	0.00	0.00	1.07	1.05	0.00	0.00	0.00	1.37	0.00	0.24	3.63	3.13	5.12	0.50
14 Length of segment parallel to other existing ROW (roadway, etc.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.92	0.00	0.00	0.55	0.00	0.93
15 Length of segment not parallel to pipeline ROW, railroad ROW, apparent property lines, or other existing ROW (roadway, etc.)	0.00	0.05	0.45	0.69	0.02	0.00	1.13	0.00	0.85	0.00	0.22	2.08	0.75	0.86	2.08
16 Percent of segment parallel with apparent features, property lines, pipelines, railroads, or an existing ROW	100%	93%	42%	90%	98%	100%	14%	100%	64%	100%	92%	56%	83%	86%	41%
17 Length of segment across parks/recreational areas ^[4]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 Number of additional parks/recreational areas ^[4] within 1,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Length of segment across residential areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 Length of segment across commercial/industrial areas	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 Length of segment across agricultural land/cropland	0.00	0.00	0.00	1.04	0.00	0.08	0.00	0.00	0.00	0.43	0.22	1.37	0.98	0.00	2.47
22 Length of segment across pastureland	0.21	0.00	0.01	5.09	1.06	1.67	0.43	4.53	2.07	1.28	0.45	4.16	1.78	2.08	1.01
23 Length of segment across mobile irrigated cropland or pastureland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Number of pipeline crossings (7-inches and greater)	2	0	2	2	0	5	2	0	0	0	1	0	0	2	0
25 Number of transmission line crossings	0	1	1	1	0	0	5	0	0	0	0	0	0	1	0
26 Number of U.S. and state highway crossings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Number of F.M. road crossings	0	0	0	0	0	0	0	0	0	1	1	1	3	0	1
28 Number of local road crossings	0	0	0	1	0	0	0	1	1	1	3	4	3	3	1
29 Number of cemeteries within 1,000 feet of the segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Number of heliports within 5,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Number of private airstrips within 10,000 feet of segment centerline	1	0	0	0	1	0	0	1	1	0	0	4	2	1	2
32 Number of FAA-listed airfields within 10,000 feet of segment centerline having no runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Number of FAA-listed airfields within 20,000 feet of segment centerline having at least one runway more than 3,200 feet	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
34 Number of commercial AM radio transmitters within 10,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Number of FM radio transmitters, microwave relay stations, and other electronic installations etc. within 2,000 feet of segment centerline	0	0	0	0	0	0	3	2	0	0	0	2	1	0	1
36 Number of known hazardous waste sites within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Number of oil and gas wells within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aesthetics															
38 Estimated length of segment within foreground visual zone of U.S. and state highways ^[5]	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.12	0.00	0.01	0.00	0.00	0.00	0.00	0.00
39 Estimated length of segment within foreground visual zone of FM and county roads ^[5]	0.00	0.00	0.03	0.00	0.00	0.00	0.17	0.00	0.98	0.99	0.97	1.49	2.21	0.00	1.49
40 Estimated length of segment within foreground visual zone of park and recreational areas ^{[4][5]}	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ecology															
41 Length of segment across upland woodlands	0.18	0.50	0.57	0.38	0.01	0.51	0.39	0.21	0.19	0.16	0.91	0.43	1.33	2.84	0.00
42 Length of segment across bottomland/riparian woodlands	0.51	0.21	0.13	0.30	0.00	0.00	0.09	0.41	0.08	0.19	1.07	0.41	0.14	0.94	0.00
43 Length of segment across National Wetland Inventory mapped wetlands	0.02	0.12	0.10	2.11	0.00	0.00	0.05	2.04	0.00	0.00	0.41	0.02	0.30	0.21	0.07
44 Length of segment across known habitat of federal endangered/threatened species of plants or animals	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45 Number of known state rare/unique plant locations within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Length of segment across open water (lakes or ponds)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.00
47 Number of stream crossings	6	3	1	9	1	3	6	4	7	2	6	5	4	19	2
48 Length of segment parallel to streams within 100 feet of segment centerline	0.16	0.18	0.00	0.66	0.03	0.00	0.13	0.07	0.10	0.00	0.04	0.93	0.03	0.61	0.00
49 Length of segment across 100-year floodplains	0.62	0.17	0.06	2.88	0.00	0.29	0.00	1.73	0.00	0.00	1.32	0.72	0.13	0.66	0.00
Cultural Resources															
50 Number of recorded historical and archeological sites crossed within ROW	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
51 Number of additional recorded historical and archeological sites within 1,000 feet of segment centerline	0	2	1	2	0	0	1	1	0	0	0	0	0	1	0
52 Number of National Register of Historic Places listed or determined-eligible properties within ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Number of additional National of Register Historic Places listed or determined-eligible properties within 1,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Length of segment across areas of high archaeological/historic site potential	0.92	0.76	0.77	2.09	0.73	1.37	0.77	0.80	1.52	0.72	2.42	3.09	1.84	5.76	0.53

^[1] Single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a regular basis within 500 feet of the centerline of a transmission line project greater than 230-kV.

^[2] CenterPoint Energy will potentially relocate/remove habitable structures within 50 feet of the centerline.

^[3] Apparent property boundaries created by existing roads, highway, or railroad ROW are not "double counted" in the length of ROW parallel to apparent property boundaries criteria. Property boundary information was provided by CenterPoint Energy.

^[4] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.

^[5] Half mile, unobstructed.

Note: All length measurements in miles unless noted otherwise. All linear measurements were obtained from various aerial photograph sources: NAIP 2012/2014, GoogleMaps, and Bing with the exception of high probability areas for archaeological/historical/resources which were measured from USGS Topographic Quadrangles using GIS software.

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Environmental and Land Use Data
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Evaluation Criteria	H1	H2	H3	I	I1	I2	I3	J	J1	J2	K	K1	K2	K3	L1
1 Length of segment (feet)	60,649	48,378	8,633	18,815	48,356	45,769	12,207	22,462	11,897	4,362	32,016	20,488	18,047	6,265	16,999
2 Length of segment (miles)	11.49	9.16	1.64	3.56	9.16	8.67	2.31	4.25	2.25	0.83	6.06	3.88	3.42	1.19	3.22
3 Number of directly affected habitable structures ^[1] within 500 feet of segment centerline	58	15	3	7	53	18	36	3	13	4	16	20	35	10	7
4 Number of directly affected habitable structures ^[1] also within 500 feet of an existing transmission line	0	15	0	0	0	0	33	0	0	0	13	0	0	10	0
5 Number of habitable structures ^[1] potentially to be relocated/removed ^[2]	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
6 Length of segment using existing transmission line easement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Length of new ROW required for segment	11.49	9.16	1.64	3.56	9.16	8.67	2.31	4.25	2.25	0.83	6.06	3.88	3.42	1.19	3.22
8 Number of new ROW Compressed Construction Sites (CCS) for segment	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0
9 Length of segment parallel to existing transmission line ROW	0.00	9.16	0.00	0.00	0.00	0.00	2.31	0.00	0.00	0.00	1.51	0.00	0.00	1.03	0.00
10 Length of segment not utilizing/paralleling existing transmission line ROW	11.49	0.00	1.64	3.56	9.16	8.67	0.00	4.25	2.25	0.83	4.55	3.88	3.42	0.15	3.22
11 Length of segment parallel to existing pipeline ROW	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 Length of segment parallel to existing railroad ROW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 Length of segment paralleling apparent property lines ^[3]	3.30	0.00	1.28	1.18	6.78	4.82	0.00	2.45	1.75	0.00	3.99	1.44	0.05	0.00	2.45
14 Length of segment parallel to other existing ROW (roadway, etc.)	6.38	0.00	0.00	2.19	0.67	1.74	0.00	0.12	0.00	0.46	0.00	2.05	3.32	0.00	0.06
15 Length of segment not parallel to pipeline ROW, railroad ROW, apparent property lines, or other existing ROW (roadway, etc.)	1.80	0.00	0.36	0.20	1.71	2.02	0.00	1.68	0.50	0.35	0.56	0.39	0.04	0.15	0.71
16 Percent of segment parallel with apparent features, property lines, pipelines, railroads, or an existing ROW	84%	100%	78%	94%	81%	77%	100%	60%	78%	56%	91%	90%	99%	87%	78%
17 Length of segment across parks/recreational areas ^[4]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 Number of additional parks/recreational areas ^[4] within 1,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Length of segment across residential areas	0.00	0.16	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 Length of segment across commercial/industrial areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00
21 Length of segment across agricultural land/cropland	1.40	0.00	0.07	1.24	0.00	0.55	0.00	0.71	0.00	0.00	1.24	0.76	0.00	0.00	0.61
22 Length of segment across pastureland	4.95	5.47	0.38	1.92	4.11	6.29	0.44	2.72	0.54	0.46	4.42	2.37	2.92	0.17	2.08
23 Length of segment across mobile irrigated cropland or pastureland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Number of pipeline crossings (7-inches and greater)	0	4	0	4	0	5	1	0	0	0	2	0	2	0	0
25 Number of transmission line crossings	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
26 Number of U.S. and state highway crossings	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0
27 Number of F.M. road crossings	3	2	0	0	2	2	0	0	0	0	0	0	0	0	1
28 Number of local road crossings	3	3	1	1	4	2	4	0	1	1	2	2	0	0	3
29 Number of cemeteries within 1,000 feet of the segment centerline	2	0	0	0	0	1	0	0	0	0	0	1	1	0	0
30 Number of heliports within 5,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Number of private airstrips within 10,000 feet of segment centerline	1	0	2	4	2	3	0	0	2	0	0	2	1	1	1
32 Number of FAA-listed airfields within 10,000 feet of segment centerline having no runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Number of FAA-listed airfields within 20,000 feet of segment centerline having at least one runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 Number of commercial AM radio transmitters within 10,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Number of FM radio transmitters, microwave relay stations, and other electronic installations etc. within 2,000 feet of segment centerline	5	0	0	0	0	0	0	0	1	0	0	1	0	0	0
36 Number of known hazardous waste sites within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Number of oil and gas wells within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aesthetics															
38 Estimated length of segment within foreground visual zone of U.S. and state highways ^[5]	9.55	0.00	0.00	0.00	0.00	0.54	0.00	0.00	0.00	0.62	0.42	0.00	3.41	0.00	0.00
39 Estimated length of segment within foreground visual zone of FM and county roads ^[5]	0.27	2.51	0.00	0.00	2.06	4.71	0.48	0.00	0.49	0.00	0.00	0.85	0.00	0.00	2.22
40 Estimated length of segment within foreground visual zone of park and recreational areas ^{[4][5]}	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ecology															
41 Length of segment across upland woodlands	4.17	2.84	1.01	0.00	4.61	0.99	1.58	0.00	1.44	0.16	0.37	0.58	0.16	0.83	0.28
42 Length of segment across bottomland/riparian woodlands	0.42	0.50	0.00	0.17	0.25	0.64	0.00	0.78	0.22	0.18	0.00	0.00	0.09	0.05	0.14
43 Length of segment across National Wetland Inventory mapped wetlands	0.00	0.04	0.00	0.13	0.00	0.03	0.00	0.24	0.03	0.00	0.25	0.00	0.00	0.00	0.08
44 Length of segment across known habitat of federal endangered/threatened species of plants or animals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45 Number of known state rare/unique plant locations within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Length of segment across open water (lakes or ponds)	0.07	0.02	0.06	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.00	0.02
47 Number of stream crossings	21	11	2	4	12	14	6	12	2	1	6	3	5	2	6
48 Length of segment parallel to streams within 100 feet of segment centerline	0.59	0.31	0.00	0.03	0.29	0.35	0.05	0.50	0.26	0.00	2.70	0.00	0.04	0.07	0.31
49 Length of segment across 100-year floodplains	1.46	0.35	0.06	0.97	0.41	1.85	0.21	0.71	0.13	0.14	0.04	0.00	0.66	0.09	0.45
Cultural Resources															
50 Number of recorded historical and archeological sites crossed within ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Number of additional recorded historical and archeological sites within 1,000 feet of segment centerline	0	0	1	0	0	7	0	2	0	0	0	0	0	0	0
52 Number of National Register of Historic Places listed or determined-eligible properties within ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Number of additional National of Register Historic Places listed or determined-eligible properties within 1,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Length of segment across areas of high archaeological/historic site potential	8.23	6.99	0.81	2.15	8.32	6.58	1.55	3.93	1.47	0.69	1.99	0.99	2.73	0.77	1.98

^[1] Single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a regular basis within 500 feet of the centerline of a transmission line project greater than 230-kV.

^[2] CenterPoint Energy will potentially relocate/remove habitable structures within 50 feet of the centerline.

^[3] Apparent property boundaries created by existing roads, highway, or railroad ROW are not "double counted" in the length of ROW parallel to apparent property boundaries criteria. Property boundary information was provided by CenterPoint Energy.

^[4] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.

^[5] Half mile, unobstructed.

Note: All length measurements in miles unless noted otherwise. All linear measurements were obtained from various aerial photograph sources: NAIP 2012/2014, GoogleMaps, and Bing with the exception of high probability areas for archaeological historical/resources which were measured from USGS Topographic Quadrangles using GIS software.

**Table 4-1
Environmental and Land Use Data
for the Primary Transmission Line Route Segments
4/17/2015**

Evaluation Criteria	L2	L3	LA	LB	LC	LD	M	M1A	M1B	M2	M3	N1A	N1B	N1C	N2
1 Length of segment (feet)	11,232	20,421	57,965	5,089	13,368	239	23,082	17,219	11,898	18,616	2,640	50,644	9,506	11,586	29,850
2 Length of segment (miles)	2.13	3.87	10.98	0.96	2.53	0.05	4.37	3.26	2.25	3.53	0.50	9.59	1.80	2.19	5.65
3 Number of directly affected habitable structures ^[1] within 500 feet of segment centerline	1	4	145	3	13	0	9	61	5	1	0	45	6	20	9
4 Number of directly affected habitable structures ^[1] also within 500 feet of an existing transmission line	0	3	142	3	0	0	0	0	0	1	0	40	0	17	0
5 Number of habitable structures ^[1] potentially to be relocated/removed ^[2]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Length of segment using existing transmission line easement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Length of new ROW required for segment	2.13	3.87	10.98	0.96	2.53	0.05	4.37	3.26	2.25	3.53	0.50	9.59	1.80	2.19	5.65
8 Number of new ROW Compressed Construction Sites (CCS) for segment	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
9 Length of segment parallel to existing transmission line ROW	0.00	1.95	10.27	0.96	0.00	0.05	0.00	0.00	0.00	3.53	0.00	9.47	0.00	2.19	0.00
10 Length of segment not utilizing/paralleling existing transmission line ROW	2.13	1.92	0.70	0.00	2.53	0.00	4.37	3.26	2.25	0.00	0.50	0.12	1.80	0.00	5.65
11 Length of segment parallel to existing pipeline ROW	0.00	1.92	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
12 Length of segment parallel to existing railroad ROW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00
13 Length of segment paralleling apparent property lines ^[3]	1.03	0.00	0.00	0.00	1.42	0.00	1.77	1.91	0.40	0.00	0.00	0.00	0.81	0.00	3.88
14 Length of segment parallel to other existing ROW (roadway, etc.)	0.41	0.00	0.25	0.00	0.00	0.00	1.43	0.98	1.24	0.00	0.00	0.00	0.00	0.00	0.62
15 Length of segment not parallel to pipeline ROW, railroad ROW, apparent property lines, or other existing ROW (roadway, etc.)	0.69	0.00	0.45	0.00	1.11	0.00	0.98	0.38	0.62	0.00	0.25	0.00	0.99	0.00	1.06
16 Percent of segment parallel with apparent features, property lines, pipelines, railroads, or an existing ROW	68%	100%	96%	100%	56%	100%	78%	88%	73%	100%	49%	99%	45%	100%	81%
17 Length of segment across parks/recreational areas ^[4]	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00
18 Number of additional parks/recreational areas ^[4] within 1,000 feet of segment centerline	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
19 Length of segment across residential areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00
20 Length of segment across commercial/industrial areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00
21 Length of segment across agricultural land/cropland	0.00	0.00	3.62	0.00	0.00	0.00	1.96	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 Length of segment across pastureland	1.42	1.51	4.40	0.00	1.41	0.03	2.16	1.71	0.99	2.29	0.32	2.97	0.82	1.46	3.76
23 Length of segment across mobile irrigated cropland or pastureland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Number of pipeline crossings (7-inches and greater)	1	6	3	0	1	0	6	8	0	4	0	1	0	0	5
25 Number of transmission line crossings	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0
26 Number of U.S. and state highway crossings	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1
27 Number of F.M. road crossings	0	0	1	0	0	1	1	1	0	0	0	0	0	0	1
28 Number of local road crossings	1	1	4	0	1	0	2	2	1	1	0	4	1	1	3
29 Number of cemeteries within 1,000 feet of the segment centerline	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
30 Number of heliports within 5,000 feet of segment centerline	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Number of private airstrips within 10,000 feet of segment centerline	1	0	2	0	0	0	2	1	0	0	0	1	1	1	2
32 Number of FAA-listed airfields within 10,000 feet of segment centerline having no runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Number of FAA-listed airfields within 20,000 feet of segment centerline having at least one runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 Number of commercial AM radio transmitters within 10,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Number of FM radio transmitters, microwave relay stations, and other electronic installations etc. within 2,000 feet of segment centerline	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0
36 Number of known hazardous waste sites within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Number of oil and gas wells within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aesthetics															
38 Estimated length of segment within foreground visual zone of U.S. and state highways ^[5]	0.42	0.54	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	0.31
39 Estimated length of segment within foreground visual zone of FM and county roads ^[5]	0.00	0.00	1.02	0.00	0.62	0.05	1.00	0.91	1.85	0.51	0.00	0.48	0.00	0.00	1.56
40 Estimated length of segment within foreground visual zone of park and recreational areas ^{[4][5]}	0.00	0.00	3.45	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.55	0.00	0.00	0.00
Ecology															
41 Length of segment across upland woodlands	0.11	2.15	0.87	0.71	0.90	0.00	0.13	1.04	0.63	0.33	0.17	5.46	0.64	0.57	0.72
42 Length of segment across bottomland/riparian woodlands	0.53	0.15	1.77	0.25	0.20	0.00	0.00	0.40	0.83	0.83	0.00	0.71	0.27	0.00	1.06
43 Length of segment across National Wetland Inventory mapped wetlands	0.00	0.00	0.59	0.33	0.00	0.00	0.28	0.23	0.22	0.01	0.00	0.38	0.00	0.00	0.00
44 Length of segment across known habitat of federal endangered/threatened species of plants or animals	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
45 Number of known state rare/unique plant locations within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Length of segment across open water (lakes or ponds)	0.00	0.01	0.06	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.01
47 Number of stream crossings	3	7	16	3	5	0	3	4	3	11	1	10	3	3	16
48 Length of segment parallel to streams within 100 feet of segment centerline	0.11	0.23	1.02	0.00	0.32	0.00	0.94	0.00	0.00	0.48	0.00	0.22	0.09	0.01	0.23
49 Length of segment across 100-year floodplains	0.53	0.00	2.01	0.27	0.61	0.00	0.00	0.60	0.56	1.31	0.00	0.19	0.15	0.14	1.13
Cultural Resources															
50 Number of recorded historical and archeological sites crossed within ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Number of additional recorded historical and archeological sites within 1,000 feet of segment centerline	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0
52 Number of National Register of Historic Places listed or determined-eligible properties within ROW	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
53 Number of additional National of Register Historic Places listed or determined-eligible properties within 1,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Length of segment across areas of high archaeological/historic site potential	2.13	3.11	5.82	0.76	1.38	0.05	0.00	1.53	1.15	2.96	0.25	7.96	1.36	1.26	4.48

^[1] Single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a regular basis within 500 feet of the centerline of a transmission line project greater than 230-kV.

^[2] CenterPoint Energy will potentially relocate/remove habitable structures within 50 feet of the centerline.

^[3] Apparent property boundaries created by existing roads, highway, or railroad ROW are not "double counted" in the length of ROW parallel to apparent property boundaries criteria. Property boundary information was provided by CenterPoint Energy.

^[4] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.

^[5] Half mile, unobstructed.

Note: All length measurements in miles unless noted otherwise. All linear measurements were obtained from various aerial photograph sources: NAIP 2012/2014, GoogleMaps, and Bing with the exception of high probability areas for archaeological historical/resources which were measured from USGS Topographic Quadrangles using GIS software.

**Table 4-1
Environmental and Land Use Data
for the Primary Transmission Line Route Segments
4/17/2015**

Land Use	N3	NA	NB	O	O1	O2	O3	P	P1	P2	P3	Q	Q1	Q2	Q3
1 Length of segment (feet)	2,588	10,704	14,547	16,456	7,216	14,579	3,282	38,539	13,009	12,579	233	24,662	13,867	1,756	378
2 Length of segment (miles)	0.49	2.03	2.76	3.12	1.37	2.76	0.62	7.30	2.46	2.38	0.04	4.67	2.63	0.33	0.07
3 Number of directly affected habitable structures ^[1] within 500 feet of segment centerline	1	2	14	53	3	6	1	22	23	13	1	7	3	0	2
4 Number of directly affected habitable structures ^[1] also within 500 feet of an existing transmission line	0	0	0	50	0	4	0	0	0	1	0	3	0	0	1
5 Number of habitable structures ^[1] potentially to be relocated/removed ^[2]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Length of segment using existing transmission line easement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Length of new ROW required for segment	0.49	2.03	2.76	3.12	1.37	2.76	0.62	7.30	2.46	2.38	0.04	4.67	2.63	0.33	0.07
8 Number of new ROW Compressed Construction Sites (CCS) for segment	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0
9 Length of segment parallel to existing transmission line ROW	0.00	0.00	0.00	1.60	0.00	1.63	0.00	0.00	0.00	0.00	0.00	1.89	0.00	0.00	0.00
10 Length of segment not utilizing/paralleling existing transmission line ROW	0.49	2.03	2.76	1.51	1.37	1.13	0.62	7.30	2.46	2.38	0.04	2.78	2.63	0.33	0.07
11 Length of segment parallel to existing pipeline ROW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 Length of segment parallel to existing railroad ROW	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 Length of segment paralleling apparent property lines ^[3]	0.00	0.92	1.29	1.34	0.31	1.13	0.00	5.18	1.08	0.00	0.00	0.32	2.60	0.33	0.00
14 Length of segment parallel to other existing ROW (roadway, etc.)	0.00	0.07	1.23	0.00	0.92	0.00	0.00	1.34	0.95	2.38	0.00	2.03	0.00	0.00	0.00
15 Length of segment not parallel to pipeline ROW, railroad ROW, apparent property lines, or other existing ROW (roadway, etc.)	0.40	1.03	0.23	0.17	0.13	0.00	0.62	0.78	0.44	0.00	0.04	0.42	0.03	0.00	0.07
16 Percent of segment parallel with apparent features, property lines, pipelines, railroads, or an existing ROW	18%	49%	92%	94%	90%	100%	0%	89%	82%	100%	0%	91%	99%	100%	0%
17 Length of segment across parks/recreational areas ^[4]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 Number of additional parks/recreational areas ^[4] within 1,000 feet of segment centerline	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
19 Length of segment across residential areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 Length of segment across commercial/industrial areas	0.40	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.07
21 Length of segment across agricultural land/cropland	0.00	1.60	0.65	0.49	0.00	0.00	0.00	2.69	0.29	0.00	0.00	0.21	0.00	0.00	0.00
22 Length of segment across pastureland	0.04	0.32	1.52	2.00	0.81	1.98	0.24	3.04	0.63	1.69	0.00	4.04	1.25	0.00	0.00
23 Length of segment across mobile irrigated cropland or pastureland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Number of pipeline crossings (7-inches and greater)	1	3	0	4	0	16	1	5	0	7	0	4	0	0	0
25 Number of transmission line crossings	0	0	0	0	0	1	0	2	0	0	0	2	0	0	0
26 Number of U.S. and state highway crossings	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
27 Number of F.M. road crossings	0	0	2	0	1	2	0	1	0	1	0	0	0	0	0
28 Number of local road crossings	0	0	2	2	0	0	0	6	3	1	0	1	1	0	0
29 Number of cemeteries within 1,000 feet of the segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Number of heliports within 5,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Number of private airstrips within 10,000 feet of segment centerline	0	6	4	2	2	0	0	0	2	0	0	0	2	1	0
32 Number of FAA-listed airfields within 10,000 feet of segment centerline having no runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Number of FAA-listed airfields within 20,000 feet of segment centerline having at least one runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 Number of commercial AM radio transmitters within 10,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Number of FM radio transmitters, microwave relay stations, and other electronic installations etc. within 2,000 feet of segment centerline	3	0	0	0	0	0	3	0	0	0	3	1	0	0	3
36 Number of known hazardous waste sites within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Number of oil and gas wells within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aesthetics															
38 Estimated length of segment within foreground visual zone of U.S. and state highways ^[5]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39 Estimated length of segment within foreground visual zone of FM and county roads ^[5]	0.00	0.00	1.89	0.48	0.83	1.76	0.00	1.26	0.12	2.38	0.00	0.00	1.48	0.00	0.00
40 Estimated length of segment within foreground visual zone of park and recreational areas ^{[4][5]}	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ecology															
41 Length of segment across upland woodlands	0.05	0.00	0.29	0.38	0.39	0.51	0.17	1.04	1.44	0.56	0.00	0.15	1.35	0.16	0.00
42 Length of segment across bottomland/riparian woodlands	0.00	0.07	0.17	0.16	0.04	0.22	0.05	0.24	0.00	0.08	0.00	0.23	0.00	0.17	0.00
43 Length of segment across National Wetland Inventory mapped wetlands	0.00	0.07	0.11	0.05	0.00	0.00	0.00	0.84	0.00	0.00	0.00	0.15	0.00	0.00	0.00
44 Length of segment across known habitat of federal endangered/threatened species of plants or animals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45 Number of known state rare/unique plant locations within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Length of segment across open water (lakes or ponds)	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47 Number of stream crossings	0	6	4	2	2	4	0	4	1	3	0	3	1	1	0
48 Length of segment parallel to streams within 100 feet of segment centerline	0.00	0.12	0.12	0.00	0.16	0.15	0.00	0.11	0.00	0.04	0.00	0.15	0.00	0.02	0.00
49 Length of segment across 100-year floodplains	0.00	0.93	0.12	0.42	0.00	0.00	0.00	0.46	0.00	0.05	0.00	0.59	0.00	0.13	0.00
Cultural Resources															
50 Number of recorded historical and archeological sites crossed within ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51 Number of additional recorded historical and archeological sites within 1,000 feet of segment centerline	1	0	0	0	0	0	1	0	0	1	1	0	0	1	1
52 Number of National Register of Historic Places listed or determined-eligible properties within ROW	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
53 Number of additional National of Register Historic Places listed or determined-eligible properties within 1,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Length of segment across areas of high archaeological/historic site potential	0.49	1.55	1.99	0.95	1.00	2.38	0.62	1.96	1.42	2.14	0.04	1.78	0.79	0.33	0.07

^[1] Single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a regular basis within 500 feet of the centerline of a transmission line project greater than 230-kV.

^[2] CenterPoint Energy will potentially relocate/remove habitable structures within 50 feet of the centerline.

^[3] Apparent property boundaries created by existing roads, highway, or railroad ROW are not "double counted" in the length of ROW parallel to apparent property boundaries criteria. Property boundary information was provided by CenterPoint Energy.

^[4] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.

^[5] Half mile, unobstructed.

Note: All length measurements in miles unless noted otherwise. All linear measurements were obtained from various aerial photograph sources: NAIP 2012/2014, GoogleMaps, and Bing with the exception of high probability areas for archaeological historical/resources which were measured from USGS Topographic Quadrangles using GIS software.

**Table 4-1
Environmental and Land Use Data
for the Primary Transmission Line Route Segments
4/17/2015**

Evaluation Criteria	R	R2	R3	S	S1	S2	T	T1	T2	U	U2	V	V1	V2A	V2B
1 Length of segment (feet)	14,937	9,217	284	5,191	18,160	2,275	12,198	8,997	25,648	11,658	28,223	10,036	19,134	35,516	10,436
2 Length of segment (miles)	2.83	1.75	0.05	0.98	3.44	0.43	2.31	1.70	4.86	2.21	5.35	1.90	3.62	6.73	1.98
3 Number of directly affected habitable structures ^[1] within 500 feet of segment centerline	22	2	1	18	8	0	38	4	5	20	12	14	8	11	6
4 Number of directly affected habitable structures ^[1] also within 500 feet of an existing transmission line	0	0	1	1	0	0	38	0	0	0	0	1	0	9	0
5 Number of habitable structures ^[1] potentially to be relocated/removed ^[2]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Length of segment using existing transmission line easement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Length of new ROW required for segment	2.83	1.75	0.05	0.98	3.44	0.43	2.31	1.70	4.86	2.21	5.35	1.90	3.62	6.73	1.98
8 Number of new ROW Compressed Construction Sites (CCS) for segment	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
9 Length of segment parallel to existing transmission line ROW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 Length of segment not utilizing/paralleling existing transmission line ROW	2.83	1.75	0.05	0.98	3.44	0.43	2.31	1.70	4.86	2.21	5.35	1.90	3.62	6.73	1.98
11 Length of segment parallel to existing pipeline ROW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 Length of segment parallel to existing railroad ROW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 Length of segment paralleling apparent property lines ^[3]	0.00	1.41	0.00	0.00	2.96	0.32	0.51	1.37	4.72	0.67	3.45	0.70	2.00	0.00	0.48
14 Length of segment parallel to other existing ROW (roadway, etc.)	2.71	0.33	0.00	0.98	0.00	0.00	1.80	0.31	0.00	0.74	1.27	1.01	1.10	0.00	0.40
15 Length of segment not parallel to pipeline ROW, railroad ROW, apparent property lines, or other existing ROW (roadway, etc.)	0.11	0.00	0.05	0.00	0.48	0.11	0.00	0.02	0.14	0.80	0.63	0.18	0.52	0.00	0.29
16 Percent of segment parallel with apparent features, property lines, pipelines, railroads, or an existing ROW	98%	100%	0%	100%	86%	74%	100%	99%	97%	64%	88%	90%	86%	100%	85%
17 Length of segment across parks/recreational areas ^[4]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 Number of additional parks/recreational areas ^[4] within 1,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Length of segment across residential areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 Length of segment across commercial/industrial areas	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 Length of segment across agricultural land/cropland	0.90	0.00	0.00	0.12	0.00	0.00	0.66	0.00	0.54	0.00	0.34	0.00	0.00	0.00	0.43
22 Length of segment across pastureland	1.74	1.30	0.00	0.79	2.07	0.33	1.61	0.84	2.23	2.07	3.38	1.80	1.93	5.32	1.14
23 Length of segment across mobile irrigated cropland or pastureland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Number of pipeline crossings (7-inches and greater)	0	3	0	0	0	0	1	0	5	0	8	0	2	8	9
25 Number of transmission line crossings	1	0	0	0	0	0	1	0	0	0	0	1	0	1	0
26 Number of U.S. and state highway crossings	0	0	0	0	0	0	0	0	1	0	1	0	0	2	1
27 Number of F.M. road crossings	1	0	0	0	1	1	0	0	0	0	1	1	1	2	0
28 Number of local road crossings	3	0	0	1	1	0	0	1	0	2	1	1	1	2	1
29 Number of cemeteries within 1,000 feet of the segment centerline	0	0	0	0	0	0	0	2	1	0	0	1	2	2	0
30 Number of heliports within 5,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
31 Number of private airstrips within 10,000 feet of segment centerline	3	2	0	3	1	1	0	1	1	0	0	2	1	0	0
32 Number of FAA-listed airfields within 10,000 feet of segment centerline having no runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Number of FAA-listed airfields within 20,000 feet of segment centerline having at least one runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34 Number of commercial AM radio transmitters within 10,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 Number of FM radio transmitters, microwave relay stations, and other electronic installations etc. within 2,000 feet of segment centerline	0	0	3	0	0	0	0	0	0	0	1	0	0	0	1
36 Number of known hazardous waste sites within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Number of oil and gas wells within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aesthetics															
38 Estimated length of segment within foreground visual zone of U.S. and state highways ^[5]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	0.00	2.53	0.00	0.00	1.91	1.98
39 Estimated length of segment within foreground visual zone of FM and county roads ^[5]	0.52	0.47	0.00	0.98	1.06	0.43	0.00	0.00	0.55	0.00	0.00	1.67	0.92	1.65	0.00
40 Estimated length of segment within foreground visual zone of park and recreational areas ^{[4][5]}	1.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.00	0.00	0.00
Ecology															
41 Length of segment across upland woodlands	0.03	0.26	0.00	0.07	1.18	0.09	0.00	0.80	1.60	0.08	1.11	0.00	0.80	0.96	0.31
42 Length of segment across bottomland/riparian woodlands	0.04	0.14	0.00	0.00	0.13	0.00	0.00	0.00	0.36	0.00	0.36	0.06	0.80	0.18	0.00
43 Length of segment across National Wetland Inventory mapped wetlands	0.03	0.00	0.00	0.00	0.04	0.00	0.11	0.00	0.00	0.28	0.00	0.00	0.10	0.00	0.00
44 Length of segment across known habitat of federal endangered/threatened species of plants or animals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45 Number of known state rare/unique plant locations within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Length of segment across open water (lakes or ponds)	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.06	0.00	0.00	0.07	0.00
47 Number of stream crossings	1	4	0	0	5	0	2	3	8	0	10	1	12	21	1
48 Length of segment parallel to streams within 100 feet of segment centerline	0.00	0.14	0.00	0.00	0.16	0.00	0.06	0.00	0.10	0.00	0.36	0.00	0.70	0.85	0.00
49 Length of segment across 100-year floodplains	0.03	0.11	0.00	0.00	0.62	0.00	0.00	0.00	0.61	0.00	0.24	0.14	0.95	0.00	0.00
Cultural Resources															
50 Number of recorded historical and archeological sites crossed within ROW	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
51 Number of additional recorded historical and archeological sites within 1,000 feet of segment centerline	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
52 Number of National Register of Historic Places listed or determined-eligible properties within ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Number of additional National of Register Historic Places listed or determined-eligible properties within 1,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Length of segment across areas of high archaeological/historic site potential	1.02	1.30	0.05	0.32	1.78	0.43	1.15	1.12	4.20	0.08	3.95	0.58	2.99	5.70	1.51

^[1] Single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a regular basis within 500 feet of the centerline of a transmission line project greater than 230-kV.

^[2] CenterPoint Energy will potentially relocate/remove habitable structures within 50 feet of the centerline.

^[3] Apparent property boundaries created by existing roads, highway, or railroad ROW are not "double counted" in the length of ROW parallel to apparent property boundaries criteria. Property boundary information was provided by CenterPoint Energy.

^[4] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.

^[5] Half mile, unobstructed.

Note: All length measurements in miles unless noted otherwise. All linear measurements were obtained from various aerial photograph sources: NAIP 2012/2014, GoogleMaps, and Bing with the exception of high probability areas for archaeological historical/resources which were measured from USGS Topographic Quadrangles using GIS software.

**Table 4-1
Environmental and Land Use Data
for the Primary Transmission Line Route Segments
4/17/2015**

Land Use	W	W2	X	X1	X2	Y	Y1	Y2	Z	Z1	Z2
1 Length of segment (feet)	47,726	3,664	23,633	14,029	35,038	9,590	18,038	27,622	20,977	27,190	9,636
2 Length of segment (miles)	9.04	0.69	4.48	2.66	6.64	1.82	3.42	5.23	3.97	5.15	1.82
3 Number of directly affected habitable structures ^[1] within 500 feet of segment centerline	32	2	18	12	0	13	9	5	23	7	4
4 Number of directly affected habitable structures ^[1] also within 500 feet of an existing transmission line	12	0	0	0	0	0	0	0	3	0	0
5 Number of habitable structures ^[1] potentially to be relocated/removed ^[2]	0	0	0	0	0	0	0	0	0	0	0
6 Length of segment using existing transmission line easement	0	0	0	0	0	0	0	0	0	0	0
7 Length of new ROW required for segment	9.04	0.69	4.48	2.66	6.64	1.82	3.42	5.23	3.97	5.15	1.82
8 Number of new ROW Compressed Construction Sites (CCS) for segment	2	0	0	0	0	0	0	0	0	0	0
9 Length of segment parallel to existing transmission line ROW	2.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00
10 Length of segment not utilizing/paralleling existing transmission line ROW	6.35	0.69	4.48	2.66	6.64	1.82	3.42	5.23	3.22	5.15	1.82
11 Length of segment parallel to existing pipeline ROW	1.36	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.92	0.85
12 Length of segment parallel to existing railroad ROW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 Length of segment paralleling apparent property lines ^[3]	1.58	0.48	3.54	1.50	2.03	0.00	2.97	4.48	1.11	2.25	0.59
14 Length of segment parallel to other existing ROW (roadway, etc.)	1.06	0.00	0.00	0.00	0.57	1.80	0.00	0.00	1.61	0.90	0.00
15 Length of segment not parallel to pipeline ROW, railroad ROW, apparent property lines, or other existing ROW (roadway, etc.)	2.35	0.22	0.94	1.16	4.04	0.02	0.45	0.29	0.50	1.08	0.39
16 Percent of segment parallel with apparent features, property lines, pipelines, railroads, or an existing ROW	74%	69%	79%	56%	39%	99%	87%	94%	87%	79%	79%
17 Length of segment across parks/recreational areas ^[4]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 Number of additional parks/recreational areas ^[4] within 1,000 feet of segment centerline	0	0	0	1	0	0	1	0	0	0	0
19 Length of segment across residential areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 Length of segment across commercial/industrial areas	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 Length of segment across agricultural land/cropland	2.18	0.00	1.48	0.43	0.00	0.74	0.81	0.13	0.51	0.60	0.00
22 Length of segment across pastureland	5.32	0.57	2.01	1.81	1.08	1.04	2.13	2.04	2.78	3.82	0.17
23 Length of segment across mobile irrigated cropland or pastureland	0	0	0	0	0	0	0	0	0	0	0
24 Number of pipeline crossings (7-inches and greater)	1	3	2	0	5	0	2	4	0	6	7
25 Number of transmission line crossings	1	0	0	0	0	0	0	0	1	0	0
26 Number of U.S. and state highway crossings	2	0	2	0	1	0	0	1	0	1	1
27 Number of F.M. road crossings	1	1	0	1	1	1	3	0	2	2	0
28 Number of local road crossings	3	0	3	1	0	0	0	1	0	1	0
29 Number of cemeteries within 1,000 feet of the segment centerline	0	0	0	0	1	0	0	0	1	1	0
30 Number of heliports within 5,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0
31 Number of private airstrips within 10,000 feet of segment centerline	0	1	0	0	1	0	0	2	1	0	0
32 Number of FAA-listed airfields within 10,000 feet of segment centerline having no runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0
33 Number of FAA-listed airfields within 20,000 feet of segment centerline having at least one runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0
34 Number of commercial AM radio transmitters within 10,000 feet of segment centerline	0	0	0	0	0	0	0	0	0	0	0
35 Number of FM radio transmitters, microwave relay stations, and other electronic installations etc. within 2,000 feet of segment centerline	1	0	1	0	0	0	1	1	1	0	1
36 Number of known hazardous waste sites within the ROW	0	0	0	0	0	0	0	0	0	0	0
37 Number of oil and gas wells within the ROW	0	0	0	0	0	0	0	0	0	0	0
Aesthetics											
38 Estimated length of segment within foreground visual zone of U.S. and state highways ^[5]	3.96	0.00	1.76	0.28	1.00	0.00	0.00	1.04	0.00	1.63	1.73
39 Estimated length of segment within foreground visual zone of FM and county roads ^[5]	0.32	0.53	0.00	0.78	1.38	1.33	2.74	0.87	1.70	1.01	0.00
40 Estimated length of segment within foreground visual zone of park and recreational areas ^{[4][5]}	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00
Ecology											
41 Length of segment across upland woodlands	0.74	0.08	0.76	0.38	0.77	0.01	0.23	2.91	0.28	0.13	1.48
42 Length of segment across bottomland/riparian woodlands	0.34	0.02	0.05	0.00	4.68	0.00	0.17	0.08	0.23	0.47	0.06
43 Length of segment across National Wetland Inventory mapped wetlands	0.00	0.00	0.50	0.00	0.61	0.17	0.00	0.00	0.26	0.00	0.00
44 Length of segment across known habitat of federal endangered/threatened species of plants or animals	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.48	0.00	0.00	0.00
45 Number of known state rare/unique plant locations within the ROW	0	0	0	0	0	0	0	0	0	0	0
46 Length of segment across open water (lakes or ponds)	0.06	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.06	0.00	0.00
47 Number of stream crossings	13	0	3	0	19	1	7	3	9	12	3
48 Length of segment parallel to streams within 100 feet of segment centerline	0.10	0.00	0.37	0.00	0.84	0.00	0.27	0.15	0.03	0.41	0.00
49 Length of segment across 100-year floodplains	0.51	0.02	0.88	0.00	4.83	0.00	0.04	0.12	0.18	0.24	0.00
Cultural Resources											
50 Number of recorded historical and archeological sites crossed within ROW	0	0	0	0	0	0	0	0	0	0	0
51 Number of additional recorded historical and archeological sites within 1,000 feet of segment centerline	1	2	0	0	23	0	0	3	0	0	1
52 Number of National Register of Historic Places listed or determined-eligible properties within ROW	0	0	0	0	0	0	0	0	0	0	0
53 Number of additional National of Register Historic Places listed or determined-eligible properties within 1,000 feet of segment centerline	1	0	0	0	0	0	0	0	0	0	0
54 Length of segment across areas of high archaeological/historic site potential	5.71	0.60	3.32	1.10	6.64	0.64	2.03	3.86	2.56	2.38	1.20

^[1] Single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a regular basis within 500 feet of the centerline of a transmission line project greater than 230-kV.

^[2] CenterPoint Energy will potentially relocate/remove habitable structures within 50 feet of the centerline.

^[3] Apparent property boundaries created by existing roads, highway, or railroad ROW are not "double counted" in the length of ROW parallel to apparent property boundaries criteria. Property boundary information was provided by CenterPoint Energy.

^[4] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.

^[5] Half mile, unobstructed.

Note: All length measurements in miles unless noted otherwise. All linear measurements were obtained from various aerial photograph sources: NAIP 2012/2014, GoogleMaps, and Bing with the exception of high probability areas for archaeological historical/resources which were measured from USGS Topographic Quadrangles using GIS software.

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**Table 4-2
Environmental and Land Use Data
for the Primary Transmission Line Routes
4/17/2015**

Evaluation Criteria	Primary Transmission Line Routes															
	1	1A	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Length of route (feet)	323,812	319,334	314,322	336,804	349,258	362,250	339,767	345,432	331,464	361,388	321,470	339,418	400,245	376,667	388,222	357,604
2 Length of route (miles)	61.3	60.5	59.5	63.8	66.1	68.6	64.3	65.4	62.8	68.4	60.9	64.3	75.8	71.3	73.5	67.7
3 Number of directly affected habitable structures ^[1] within 500 feet of route centerline	265	262	289	263	264	262	298	272	293	295	302	294	230	203	116	114
4 Number of directly affected habitable structures ^[1] also within 500 feet of an existing transmission line	232	228	272	234	229	231	269	216	252	253	251	266	6	56	23	22
5 Number of habitable structures ^[1] potentially to be relocated/removed ^[2]	0	0	4	0	0	0	4	0	4	4	4	4	0	0	0	0
6 Length of route using existing transmission line easement	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	9.5	0.3	0.3	0.3
7 Length of new ROW required for route	61.1	60.2	59.3	63.5	65.9	68.4	64.1	65.2	62.5	68.2	60.6	64.0	66.3	71.1	73.3	67.5
8 Number of new ROW Compressed Construction Sites (CCS) for route	8	7	11	8	7	7	10	6	8	8	9	10	0	3	1	3
9 Length of route parallel to existing transmission line ROW	52.2	51.7	54.6	52.5	54.2	54.5	56.5	43.0	44.9	47.4	46.0	54.6	3.3	6.4	22.3	19.8
10 Length of route not utilizing/paralleling existing transmission line ROW	8.9	8.5	4.7	11.0	11.7	13.9	7.6	22.2	17.7	20.8	14.6	9.4	63.0	64.7	51.0	47.6
11 Length of route parallel to existing pipeline ROW	1.9	1.9	1.9	3.9	1.9	3.9	1.9	0.8	0.8	0.8	0.8	1.6	1.5	6.7	2.3	2.3
12 Length of route parallel to existing railroad ROW	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.2	0.3	0.0	0.3
13 Length of route paralleling apparent property lines ^[3]	2.2	2.2	0.0	1.5	6.1	5.4	3.9	12.5	10.3	14.2	6.0	5.0	34.8	36.0	37.7	33.8
14 Length of route parallel to other existing ROW (roadway, etc.)	0.3	0.3	0.3	1.5	0.4	1.7	0.4	2.4	2.4	2.6	3.9	0.8	14.5	10.3	4.2	4.0
15 Length of route not parallel to pipeline ROW, railroad ROW, apparent property lines, or other existing ROW (roadway, etc.)	4.5	3.9	2.5	4.2	3.2	3.0	1.3	6.4	3.8	3.2	3.6	2.0	12.1	11.4	6.7	7.2
16 Percent of route parallel with apparent features, property lines, pipelines, railroads, or an existing ROW	92%	93%	95%	93%	95%	95%	98%	90%	93%	95%	94%	97%	72%	84%	90%	89%
17 Length of route across parks/recreational areas ^[4]	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.73	0.0	0.0	0.0
18 Number of additional parks/recreational areas ^[4] within 1,000 feet of route centerline	4	4	4	4	4	4	4	4	4	4	4	4	0	0	1	1
19 Length of route across residential areas	0.3	0.3	0.5	0.3	0.3	0.3	0.5	0.1	0.3	0.3	0.5	0.5	0.0	0.0	0.0	0.0
20 Length of route across commercial/industrial areas	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.6	0.3	0.4	0.6	0.2	0.6
21 Length of route across agricultural land/cropland	4.7	4.7	4.7	4.9	4.7	4.9	4.7	5.5	5.5	5.5	5.0	5.1	12.7	8.1	9.1	9.1
22 Length of route across pastureland	29.9	30.1	28.3	29.9	33.4	33.4	31.8	30.5	29.0	32.4	29.3	31.6	38.6	39.3	35.6	32.0
23 Length of route across mobile irrigated cropland or pastureland																
24 Number of pipeline crossings (7-inches and greater)	33	30	33	33	39	39	39	57	54	63	54	49	34	34	78	69
25 Number of transmission line crossings	12	6	12	12	6	6	6	12	6	6	6	6	6	6	7	7
26 Number of U.S. and state highway crossings	4	4	4	4	4	4	4	4	4	4	4	6	5	5	5	5
27 Number of F.M. road crossings	6	6	6	6	6	6	6	5	5	5	7	6	16	12	6	6
28 Number of local road crossings	19	19	21	22	21	24	23	19	21	23	21	23	28	26	27	25
29 Number of cemeteries within 1,000 feet of the route centerline	3	3	3	3	3	3	3	1	1	1	1	3	8	8	1	1
30 Number of heliports within 5,000 feet of route centerline	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
31 Number of private airstrips within 10,000 feet of route centerline	4	4	4	4	4	4	4	5	5	5	4	4	14	10	6	6
32 Number of FAA-listed airfields within 10,000 feet of route centerline having no runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Number of FAA-listed airfields within 20,000 feet of route centerline having at least one runway more than 3,200 feet	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
34 Number of commercial AM radio transmitters within 10,000 feet of route centerline	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
35 Number of FM radio transmitters, microwave relay stations, and other electronic installations etc. within 2,000 feet of route centerline	8	8	8	9	8	9	8	9	9	9	9	9	18	8	10	10
36 Number of known hazardous waste sites within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Number of oil and gas wells within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aesthetics																
38 Estimated length of route within foreground visual zone of U.S. and state highways ^[5]	6.0	6.0	6.0	6.0	5.6	5.6	5.6	7.9	7.9	7.6	7.8	8.8	8.5	5.2	10.5	10.9
39 Estimated length of route within foreground visual zone of FM and county roads ^[5]	6.5	6.3	6.4	8.7	6.3	8.5	6.2	5.6	5.3	5.3	8.7	6.2	16.7	12.6	9.0	9.0
40 Estimated length of route within foreground visual zone of park and recreational areas ^{[4][5]}	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.7	0.0	1.0	1.0
Ecology																
41 Length of route across upland woodlands	19.2	18.6	19.4	19.9	20.2	20.9	20.4	20.2	19.7	21.4	19.0	20.1	16.7	15.0	22.1	20.3
42 Length of route across bottomland/riparian woodlands	5.0	4.9	4.4	6.4	5.1	6.4	4.4	6.8	5.9	6.2	4.7	4.3	5.0	6.5	4.4	4.1
43 Length of route across National Wetland Inventory mapped wetlands	4.2	4.0	3.9	4.8	3.9	4.6	3.6	4.4	3.9	3.8	3.7	3.6	3.9	4.4	4.3	4.4
44 Length of route across known habitat of federal endangered/threatened species of plants or animals	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.6	0.7	0.0	0.0
45 Number of known state rare/unique plant locations within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Length of route across open water (lakes or ponds)	0.3	0.4	0.3	0.3	0.6	0.6	0.6	0.3	0.4	0.6	0.3	0.6	0.2	0.2	0.4	0.1
47 Number of stream crossings	105	99	102	109	114	118	111	118	109	124	89	108	106	129	124	109
48 Length of route parallel to streams within 100 feet of route centerline	3.8	3.7	3.6	3.6	4.0	3.7	4.0	3.6	3.6	3.9	2.9	3.5	5.4	4.7	6.6	6.3
49 Length of route across 100-year floodplains	6.2	6.1	5.4	7.4	6.8	8.1	6.1	8.3	7.5	8.2	5.7	6.1	10.5	10.3	6.9	6.2
Cultural Resources																
50 Number of recorded historical and archeological sites crossed within ROW	1	0	1	1	1	1	1	1	0	1	0	1	1	1	2	1
51 Number of additional recorded historical and archeological sites within 1,000 feet of route centerline	17	17	17	17	9	9	9	17	17	9	17	8	10	16	11	19
52 Number of National Register of Historic Places listed or determined-eligible properties within ROW	0	0	0	0	0	0	0	1	1	1	1	0	0	0	1	1
53 Number of additional National of Register Historic Places listed or determined-eligible properties within 1,000 feet of route centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54 Length of route across areas of high archaeological/historic site potential	41.8	41.3	40.7	44.0	45.7	47.8	44.5	44.4	42.7	47.0	41.4	44.1	44.0	45.8	44.0	39.4

^[1] Single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a regular basis within 500 feet of the centerline of a transmission line project greater than 230-kV.
^[2] CenterPoint Energy will potentially relocate/remove habitable structures within 50 feet of the centerline.
^[3] Apparent property boundaries created by existing roads, highway, or railroad ROW are not "double counted" in the length of ROW parallel to apparent property boundaries criteria. Property boundary information was provided by CenterPoint Energy.
^[4] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.
^[5] Half mile, unobstructed.
Note: All linear measurements were obtained from various aerial photograph sources: NAIP 2012/2014, GoogleMaps, and Bing with the exception of high probability areas for archaeological historical/resources which were measured from USGS Topographic Quadrangles using GIS software.

**Table 4-2
Environmental and Land Use Data
for the Primary Transmission Line Routes
4/17/2015**

Evaluation Criteria	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1 Length of route (feet)	353,167	362,780	350,693	346,256	361,412	366,935	394,679	398,696	389,234	402,111	410,496	367,192	378,739	383,038	361,087	370,739
2 Length of route (miles)	66.9	68.7	66.4	65.6	68.4	69.5	74.7	75.5	73.7	76.2	77.7	69.5	71.7	72.5	68.4	70.2
3 Number of directly affected habitable structures ^[1] within 500 feet of route centerline	109	97	280	275	178	108	197	219	201	194	281	226	240	242	356	210
4 Number of directly affected habitable structures ^[1] also within 500 feet of an existing transmission line	21	9	153	152	17	17	21	17	17	21	52	7	7	10	180	23
5 Number of habitable structures ^[1] potentially to be relocated/removed ^[2]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
6 Length of route using existing transmission line easement	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	3.6	0.3	0.3	0.3	0.3	0.3
7 Length of new ROW required for route	66.6	68.5	66.2	65.3	68.2	69.2	64.5	71.2	63.4	66.6	74.1	69.3	71.5	72.3	68.1	70.0
8 Number of new ROW Compressed Construction Sites (CCS) for route	1	2	3	1	2	2	3	4	4	3	4	0	0	1	1	1
9 Length of route parallel to existing transmission line ROW	13.5	11.5	30.0	23.6	10.7	11.2	5.8	5.3	5.3	5.8	3.4	3.0	3.0	3.5	20.6	10.2
10 Length of route not utilizing/paralleling existing transmission line ROW	53.1	57.0	36.2	41.7	57.5	58.0	58.7	65.9	58.1	60.8	70.7	66.3	68.5	68.8	47.6	59.8
11 Length of route parallel to existing pipeline ROW	2.0	7.0	4.2	3.9	0.5	1.5	1.4	1.4	1.4	1.6	1.4	5.2	5.2	5.2	0.1	0.1
12 Length of route parallel to existing railroad ROW	0.0	0.3	0.3	0.0	0.3	0.3	0.0	0.3	0.3	0.0	0.3	0.2	0.2	0.0	0.0	0.0
13 Length of route paralleling apparent property lines ^[3]	38.4	38.5	22.5	27.1	37.7	39.1	25.2	26.6	25.8	23.8	26.5	33.2	29.5	33.2	26.0	34.6
14 Length of route parallel to other existing ROW (roadway, etc.)	3.8	2.9	2.6	2.4	9.9	4.7	12.7	17.7	12.7	15.0	22.4	10.9	16.8	12.3	6.8	8.6
15 Length of route not parallel to pipeline ROW, railroad ROW, apparent property lines, or other existing ROW (roadway, etc.)	9.0	8.3	6.6	8.4	9.0	12.4	19.4	19.8	17.9	20.4	20.1	16.8	16.7	18.1	14.7	16.5
16 Percent of route parallel with apparent features, property lines, pipelines, railroads, or an existing ROW	86%	88%	90%	87%	86%	82%	60%	68%	62%	61%	70%	75%	76%	75%	78%	76%
17 Length of route across parks/recreational areas ^[4]	0.0	0.0	0.08	0.08	0.0	0.0	0.73	0.73	0.73	0.73	0.73	0.0	0.0	0.0	0.08	0.0
18 Number of additional parks/recreational areas ^[4] within 1,000 feet of route centerline	1	1	4	4	2	1	1	1	1	1	1	1	1	1	5	2
19 Length of route across residential areas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
20 Length of route across commercial/industrial areas	0.3	0.6	0.6	0.3	0.7	0.6	0.4	0.6	0.6	0.4	0.6	0.2	0.2	0.3	0.3	0.3
21 Length of route across agricultural land/cropland	8.9	9.9	7.0	6.8	9.1	8.8	10.2	8.1	10.5	13.3	13.0	7.4	9.0	8.1	6.9	7.5
22 Length of route across pastureland	31.7	31.4	27.7	27.3	39.3	31.8	40.4	44.5	40.7	39.4	42.9	39.7	41.1	40.8	34.3	39.5
23 Length of route across mobile irrigated cropland or pastureland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24 Number of pipeline crossings (7-inches and greater)	44	60	74	49	31	48	33	30	30	39	30	30	30	33	37	32
25 Number of transmission line crossings	13	7	6	12	7	7	13	7	7	13	7	6	6	12	12	13
26 Number of U.S. and state highway crossings	5	5	4	4	5	5	7	7	7	7	7	5	7	5	4	5
27 Number of F.M. road crossings	6	6	7	9	9	7	11	11	11	12	14	13	13	13	10	12
28 Number of local road crossings	28	23	24	27	28	28	21	22	22	20	24	22	22	25	28	22
29 Number of cemeteries within 1,000 feet of the route centerline	3	2	2	4	5	4	6	6	5	6	5	5	7	4	6	4
30 Number of heliports within 5,000 feet of route centerline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Number of private airstrips within 10,000 feet of route centerline	9	6	6	9	9	9	9	9	9	8	11	10	10	10	9	7
32 Number of FAA-listed airfields within 10,000 feet of route centerline having no runway more than 3,200 feet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Number of FAA-listed airfields within 20,000 feet of route centerline having at least one runway more than 3,200 feet	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
34 Number of commercial AM radio transmitters within 10,000 feet of route centerline	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
35 Number of FM radio transmitters, microwave relay stations, and other electronic installations etc. within 2,000 feet of route centerline	10	8	11	11	10	9	23	22	22	23	20	7	12	7	10	8
36 Number of known hazardous waste sites within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 Number of oil and gas wells within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aesthetics																
38 Estimated length of route within foreground visual zone of U.S. and state highways ^[5]	8.1	7.9	7.7	4.8	12.9	8.0	19.0	19.0	18.1	19.0	18.1	5.9	15.9	5.9	6.1	9.4
39 Estimated length of route within foreground visual zone of FM and county roads ^[5]	9.8	10.4	8.3	9.1	13.9	10.7	10.2	11.0	10.0	11.2	13.4	17.7	14.9	15.8	16.8	16.0
40 Estimated length of route within foreground visual zone of park and recreational areas ^{[4][5]}	1.0	1.0	4.1	4.1	2.7	1.0	3.0	3.0	3.0	3.0	4.4	1.3	1.3	3.3	5.3	2.2
Ecology																
41 Length of route across upland woodlands	19.9	20.5	22.2	21.8	13.1	17.5	12.1	11.0	10.9	11.8	10.3	12.3	10.7	12.9	14.5	13.0
42 Length of route across bottomland/riparian woodlands	4.5	4.7	7.2	7.6	4.6	9.1	8.9	8.4	8.5	8.5	7.8	8.1	8.3	8.3	10.2	8.2
43 Length of route across National Wetland Inventory mapped wetlands	4.5	4.4	4.6	4.7	4.4	4.9	3.3	1.7	3.1	3.6	1.8	4.5	4.4	4.9	4.7	5.1
44 Length of route across known habitat of federal endangered/threatened species of plants or animals	0.6	0.6	0.0	0.6	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
45 Number of known state rare/unique plant locations within the ROW	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 Length of route across open water (lakes or ponds)	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.1	0.1
47 Number of stream crossings	105	114	124	120	103	118	118	119	116	118	130	116	128	122	117	116
48 Length of route parallel to streams within 100 feet of route centerline	5.9	4.5	4.3	3.9	6.2	6.4	6.2	4.9	6.1	6.2	4.2	4.1	4.3	4.2	4.1	5.9
49 Length of route across 100-year floodplains	6.5	8.5	9.7	10.0	7.6	11.0	14.9	12.4	14.9	14.2	12.3	14.1	14.8	14.0	14.1	11.4
Cultural Resources																
50 Number of recorded historical and archeological sites crossed within ROW	2	1	1	2	1	1	1	0	0	1	0	0	0	1	1	1
51 Number of additional recorded historical and archeological sites within 1,000 feet of route centerline	15	18	19	15	13	33	35	35	35	35	35	37	37	37	36	36
52 Number of National Register of Historic Places listed or determined-eligible properties within ROW	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
53 Number of additional National of Register Historic Places listed or determined-eligible properties within 1,000 feet of route centerline	0	0	0	0	1	0	2	2	2	2	2	1	1	1	1	1
54 Length of route across areas of high archaeological/historic site potential	38.8	43.8	43.7	43.0	39.7	41.7	47.3	45.1	46.7	44.8	46.5	49.1	49.7	49.9	43.0	44.6

^[1] Single-family and multi-family dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, schools, or other structures normally inhabited by humans or intended to be inhabited by humans on a regular basis within 500 feet of the centerline of a transmission line project greater than 230-kV.
^[2] CenterPoint Energy will potentially relocate/remove habitable structures within 50 feet of the centerline.
^[3] Apparent property boundaries created by existing roads, highway, or railroad ROW are not "double counted" in the length of ROW parallel to apparent property boundaries criteria. Property boundary information was provided by CenterPoint Energy.
^[4] Defined as parks and recreational areas owned by a governmental body or an organized group, club, or church.
^[5] Half mile, unobstructed.
Note: All length measurements in miles unless noted otherwise. All linear measurements were obtained from various aerial photograph sources: NAIP 2012/2014, GoogleMaps, and Bing with the exception of high probability areas for archaeological/historical/resources which were measured from USGS Topographic Quadrangles using GIS software.